Notes and Reviews*

EPIDEMIOLOGY AND PREVENTIVE THERAPEUTICS.

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(*Reviewer.*)

Epidemiological Advance in Twenty Years. In struggling with everyday problems, and when discouraged by slow progress and the mountainous obstacles of prejudice, ignorance and illogical procedures encountered in public health work, a review of conditions twenty years ago makes the reader feel that "the world do move" after all; and heartens him for another onslaught.

Parkes Hygiene, the eighth edition of 1891, is on these grounds worth reviewing here. This was a standard work in its day. From this edition of 1891 we learn:

"*Dampness of soil*† may presumably affect health in two ways; 1st, the effect of the water *per se* * * * 2nd, *by aiding the evolution of organic emanations.*"

"A *moist soil* influences greatly the development of the agent, whatever it may be, which causes the paroxysmal fevers." (Malaria, typhoid fever, and cholera are then connected by the author with the rise and fall of ground waters, who then adds, "It is not the ground water itself that is the cause of the disease, but the *impurities in the soil* which the varying level of the ground water helps to set in action.")

"Brushwood is frequently bad and should often be removed * * (but) its removal will sometimes, on *account of the disturbance of the ground*, increase malarious disease for the time."

"Epidemic diarrhea has * * been considered to depend largely on *soil temperature.*" (Cholera was also correlated with variations in *soil temperature at a depth of six feet.*)

"Impure soils" affect the incidence of cholera and typhoid.

"Doubts have been expressed whether (malaria) is produced by telluric effluvia or by substances passing from the soil into the drinking water. *The evidence, however, appears conclusive in favor of both of these modes of entrance into the body.*"

"Enteric fever (typhoid) *undoubtedly spreads also* through the *air* * * (He also refers to the spread of typhoid by water and milk.)

"Statistical enquiries on mortality prove *beyond a doubt* that of the causes of death which are usually in action, *impurity of the air is the most important.*"

(A noted health officer emphatically expressed this view at a recent public health convention, but a year later retracted it in full.)

*EDITOR'S NOTE. Readers are urged to send public health notes of interest to the Editor by whom they will be distributed to the proper reviewer. The sender's name or initials should appear under such notes.

†The italics are ours.

"The poison of yellow fever * * * may also exist in *sewer air*. Smallpox, scarlet fever * * * are no doubt *aggravated by it* (sewer air). That dysentery and diarrhea may also be caused by exhalations proceeding from a *foul sewer* we cannot doubt. Diphtheria and acute follicular tonsilitis are also associated with *sewer air*."

"It also appears likely that the remarkable cessation of spotted typhus among the civilized and cleanly nations is in part owing, not *merely to better ventilation*, but to more *frequent and thorough washing* of clothes."

Concerning scarlet fever: "Nothing definite is known with regard to prevention, except that a *good sanitary condition* seems to lessen it, and probably its spread."

Concerning malta fever: "Preventive measures would appear to be attention to *sanitary conditions* generally * * *."

"The origin of this disease (plague) is closely connected with *defective sanitation*, such as overcrowding, defective disposal of fecal matters, bad ventilation, and the like; and privations. Poverty and dirt are two main factors in its causation. * * "It has now been banished (from Cairo) for many years simply *by improving the ventilation of the city*."

In various chapters, yellow fever is alleged to be due to impure water and to sewer air, also that "it is coming out more and more clearly that yellow fever, like cholera and typhoid, is a fecal disease;" also "the two agencies of yellow fever and (malaria) are entirely distinct."

Doubts are expressed as to the relation of the cholera vibrio and the typhoid bacillus to their respective diseases. Erysipelas is traced to atmospheric impurity. Tuberculosis is hereditary and the dried sputum in dust is also a cause of spread. Diphtheria, scarlet fever and ulcerated throats are related to impure water. The desquamations of scarlet fever convey the disease.

Seven pages are devoted to descriptions and discussions of plumbing fixtures, evidently looked upon as important safeguards against disease; thirty-eight pages to ventilation, (not an undue proportion if impure air be the most important cause of death in the world.) One hundred and twenty-four pages are given to examination of foods, chemical, microscopical, etc; thirty-eight to meteorology; seven to vital statistics; thirty-three to the prevention of disease! Medical school supervision is not mentioned.

Space will not permit further demonstration that the obvious trend of the day was the search for the sources of disease in the environment. Hence the search necessarily failed, since it systematically overlooked the infected person himself as that source, although here and there it is tentatively suggested that the discharges of the patient may have something to do with the spread of infectious diseases.

The omissions are even more significant. Diphtheria cultures are mentioned as a tentative proposal by Roux and Yersin; the Widal reaction was unknown as a practical public health measure; testing of sputum for

tubercle bacilli is not referred to; the chemical examination of water is referred to in many places, and is outlined, but the systematic bacterial examination of water (infinitely more valuable) is described as in a most embryonic condition. Tuberculosis, mallein, antitoxin, typhoid inoculation are, of course, not touched upon. The carrying of typhoid fever by convalescents is attributed to "unwashed clothing"! (Judge Bulger, of New York, according to press notices, recently preferred charges against Dr. Doty, on the ground that cholera is so carried!) Flies and contact, mouth spray and hand infection are usually unrecognized. To us, now, such a book is the play of "Hamlet" with Hamlet left out.

When we compare the blind stumblings of the hygienists of what is after all a recent date, with the established facts of today, we can find hope for the future in our present relatively enormously advanced situation.

Concerning environment versus infected discharges, the telescope has been reversed, and we place our eyes for the former at the large end, for the latter at the small. Plumbing, air, soils, foods (except when contaminated by discharges) garbage (except as a fly breeder), sewer gas, stagnant water, clay soils, the daily temperature fluctuations of the soil at depths of four and six feet, are fortunately no longer matters of concern to us.

Our misfortune is that the public, a part of the medical profession, and even some health officers, still hold one or more, sometimes many, of the discarded views of 1891. The chief immediate duty of epidemiology is the instilling of correct views into these different classes.